such as equipment testing or adjustment, must be identified by the call sign or by the registration marking of the parent aircraft followed by a single digit other than 0 or 1.

(d) *Exempted station.* The following types of stations are exempted from the use of a call sign: Airborne weather radar, radio altimeter, air traffic control transponder, distance measuring equipment, collision avoidance equipment, racon, radio relay, radionavigation land test station (MTF), and automatically controlled aeronautical enroute stations.

§ 87.109 Station logs.

(a) A station at a fixed location in the international aeronautical mobile service must maintain a log in accordance with Annex 10 of the ICAO Convention.

(b) A station log must contain the following information:

(1) The name of the agency operating the station.

(2) The identification of the station.

(3) The date.

(4) The time of opening and closing the station.

(5) The frequencies being guarded and the type of watch (continuous or scheduled) being maintained on each frequency.

(6) Except at intermediate mechanical relay stations where the provisions of this paragraph need not be complied with, a record of each communication showing text of communication, time communications completed, station(s) communicated with, and frequency used.

(7) All distress communications and action thereon.

(8) A brief description of communications conditions and difficulties, including harmful interference. Such entries should include, whenever practicable, the time at which interference was experienced, the character, radio frequency and identification of the interfering signal.

(9) A brief description of interruption to communications due to equipment failure or other troubles, giving the duration of the interruption and action taken.

(10) Such additional information as may be considered by the operator to be of value as part of the record of the stations operations.

(c) Stations maintaining written logs must also enter the signature of each operator, with the time the operator assumes and relinquishes a watch.

[69 FR 32879, June 14, 2004]

§ 87.111 Suspension or discontinuance of operation.

The licensee of any airport control tower station or radionavigation land station must notify the nearest FAA regional office upon the temporary suspension or permanent discontinuance of the station. The FAA regional office must be notified again when service resumes.

[69 FR 32880, June 14, 2004]

Subpart D—Technical Requirements

§ 87.131 Power and emissions.

The following table lists authorized emissions and maximum power. Power must be determined by direct measurement.

Class of station	Frequency band/ frequency	Authorized emission(s) [9]	Maximum power [1]
Aeronautical advisory	VHF	A3E	10 watts.[10]
Aeronautical multicom	VHF	A3E	10 watts.
Aeronautical enroute and aeronautical fixed.	HF	R3E, H3E, J3E, J7B, H2B, J2D	6 kw.
	HF	A1A, F1B, J2A, J2B	1.5 kw.
	VHF	A3E, A9W G1D, A2D.	
Aeronautical search and rescue	VHF	A3E	10 watts.
	HF	R3E, H3E, J3E	100 watts.
Operational fixed	VHF	G3E, F2D	30 watts.
Flight test land	VHF	A3E	200 watts.
	UHF	F2D, F9D, F7D	25 watts.[3]
	HF	H2B, J3E, J7D, J9W	6.0 kw.

Class of station	Frequency band/ frequency	Authorized emission(s)[9]	Maximum power[1]
Aviation support	VHF	A3E	50 watts.
Airport control tower	VHF	A3E, G1D, G7D	50 watts.
	Below 400 kHz	A3E	15 watts.
Aeronautical utility mobile	VHF	A3E	10 watts.
Radionavigation land test	108.150 MHz	A9W	1 milliwatt.
	334.550 MHz	A1N	1 milliwatt.
	Other VHF	M1A, XXA, A1A, A1N, A2A, A2D, A9W	1 watt.
	Other UHF	M1A, XXA, A1A, A1N, A2A, A2D, A9W	1 watt.
	5031.0 MHz	F7D	1 watt.
Radionavigation land	Various[4]	Various[4]	Various.[4]
	Aeronautical Frequencies		
Aircraft (Communication)	UHF	F2D, F9D, F7D	25 watts.
	VHF	A3E, A9W, G1D, G7D, A2D	55 watts.
	HF	R3E, H3E, J3E, J7B, H2B, J7D, J9W	400 watts.
	HF	A1A, F1B, J2A, J2B	100 watts.
	Marine Frequencies[5]		
	156.300 MHz	G3E	5 watts.
	156.375 MHz	G3E	5 watts.
	156.400 MHz	G3E	5 watts.
	156.425 MHz	G3E	5 watts.
	156.450 MHz	G3E	5 watts.
	156.625 MHz	G3E	5 watts.
	156.800 MHz	G3E	5 watts.
	156.900 MHz	G3E	5 watts.
	157.425 MHz	G3E	5 watts.
	HF[6]	R3E, H3E, J3E, J2B, F1B, A3E	1000 watts. 250 watts.
	MF[6]	R3E, H3E, J3E, J2B, F1B	1000 watts.
	HF[6]	A3E	250 watts.
(Radionavigation)	Various[7]	Various[7]	Various.[7]
Aircraft earth	UHF	G1D, G1E, G1W	60 watts.[8]
Differential GPS	VHF	G7D	Various.[2]

[1] The power is measured at the transmitter output terminals and the type of power is determined according to the emission designator as follows:
(i) Mean power (pY) for amplitude modulated emissions and transmitting both sidebands using unmodulated full carrier.
(ii) Peak envelope power (pX) for all emission designators other than those referred to in paragraph (i) of this note.
[2] Power and antenna height are restricted to the minimum necessary to achieve the required service.
[3] Transmitter power may be increased to overcome line and duplexer losses but must not exceed 25 watts delivered to the antenna.
[4] Frequency, emission, and maximum power will be determined after coordination with appropriate Government agencies.
[5] To be used with airborne marine equipment certificated for part 80 (ship) and used in accordance with part 87.
[6] Applicable only to marine frequencies used for public correspondence.
[7] Frequency, emission, and maximum power will be determined by appropriate standards during the certification process.
[8] Power may not exceed 60 watts per carrier, as measured at the input of the antenna subsystem, including any installed diplexer. The maximum EIRP may not exceed 2000 watts per carrier.
[9] Excludes automatic link establishment.
[10] Power is limited to 0.5 watt, but may not exceed 2 watts when station is used in an automatic unattended mode.

[54 FR 11720, Mar. 22, 1989, as amended at 57 FR 45749, Oct. 5, 1992; 62 FR 40308, July 28, 1997; 63 FR 36607, July 7, 1998; 64 FR 27474, May 20, 1999; 66 FR 26798, May 15, 2001; 69 FR 32880, June 14, 2004]

§ 87.133 Frequency stability.

(a) Except as provided in paragraphs (c), (d), and (f) of this section, the carrier frequency of each station must be maintained within these tolerances:

Frequency band (lower limit exclusive, upper limit inclusive), and categories of stations	Tolerance[1]	Tolerance[2]
(1) Band-9 to 535 kHz:		
Aeronautical stations	100	100
Aircraft stations	200	100
Survival craft stations on 500 kHz.	5,000	20 Hz[3]
Radionavigation stations	100	100
(2) Band-1605 to 4000 kHz:		
Aeronautical fixed stations:		
Power 200 W or less	100	100[8]
Power above 200 W	50	50[8]
Aeronautical stations:		
Power 200 W or less	100[7]	100[7, 8]
Power above 200 W	50[7]	50[7, 8]
Aircraft stations	100[7]	100[7]
Survival craft stations on 2182 kHz.	200	20 Hz[3]